

0-D, 1-D, 2-D: SCOTT KIM pulls something out of a hat/ Between 1-D & 2-D: DAVID THORNBURG shows Fractals/ 3-D: GARY ZELLERBACH

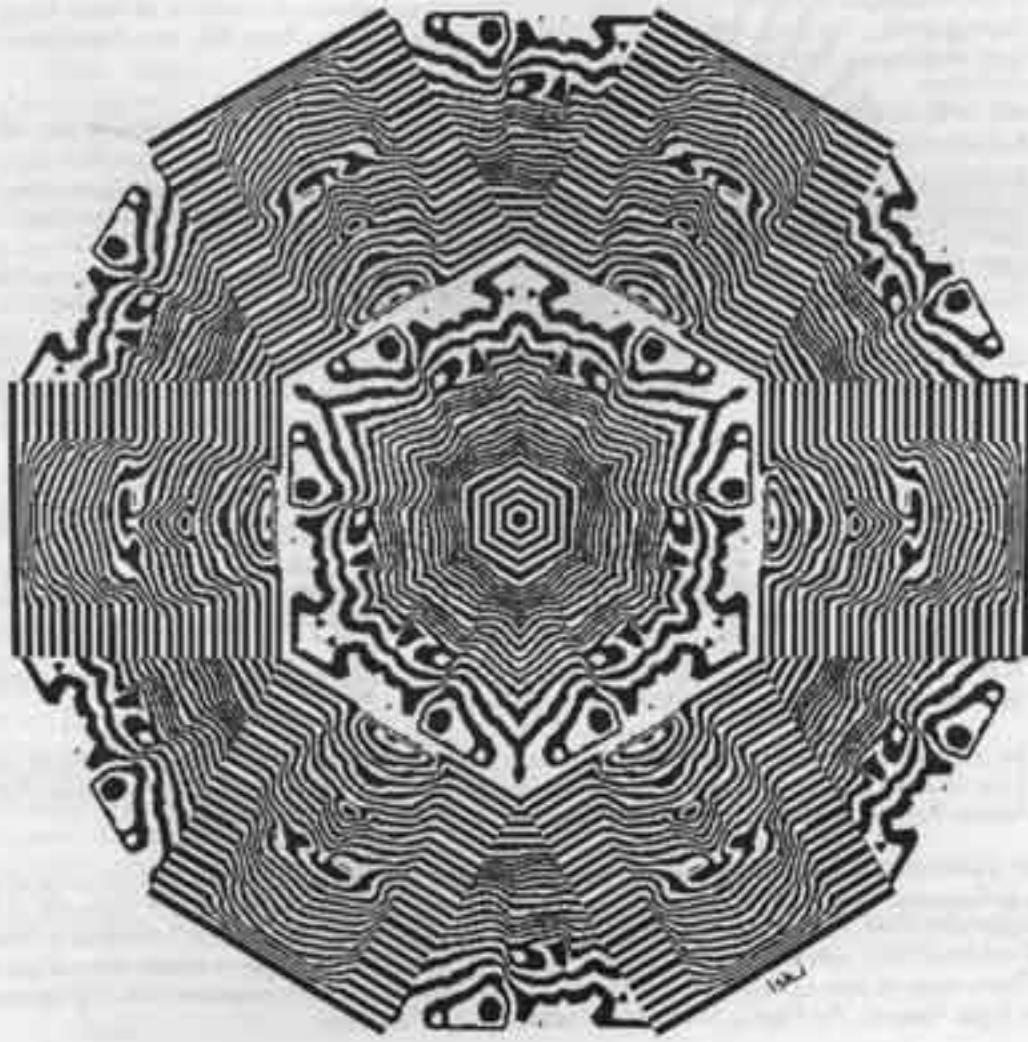
shows Holograms/ "TURNING THE SPHERE INSIDE OUT", a film/ 4-D: THE HYPERCUBE movie/ and more!

1982

Objem

PRESENTS:

DIMENSION  
DEMONSTRATION



SATURDAY 25 SEPTEMBER 2 to 5 PM

College/ OAKLAND

AUDITORIUM/ **CALIFORNIA COLLEGE OF ARTS AND CRAFTS**

Broadway at

FREE! BRING ART / BRING FRIENDS

# calendar

Now - Sept 24 FROM BYTE TO LYTE - Milton Kamisar, Kinetic light sculpture. Syntex Gallery, 3401 Hillview Ave., Palo Alto, during business hours. (415) 855-5525.

Now - Sept. 30 INNER SPACE - Geoffrey Chandler, paintings of vibrations and glowing cosmic dust. Palo Alto Medical Foundation, 300 Homer Ave., Palo Alto.

Now - Sept 30 KINETIC LIGHT SCULPTURE - Earl Reibach. Inside Design Gallery, 280-A 280 2nd St., Los Altos. (415) 949-3007.

Now - Nov. 21 POTENTIALS - Creators and Innovators of Our Time, Channel 18, Los Angeles. A 13-week documentary 9:30 PM Sundays featuring the ideas and insights of leaders in the field of creative change. Write in for "Connections" kit to POTENTIALS, PO Box 2173, Palos Verdes, CA 90274. Info: Charlotte White (202) 966-8776.

Now - Oct. 1 MAUDE CHURCH - new paintings and drawings. American Institute of Architects, 315 14th St., Oakland. M-F 9-5 PM. Surreal works based on figures and landscapes. Info: (415) 339-9890.

Starts  
Immediately THE VISUAL ASPECTS OF SCIENCE - a NEXA course (science in the humanities) at San Francisco State University, 1600 Holloway, San Francisco 94132.

Now - Nov 30 LUX HUMANA - Artie Conner. A collection of rainbows and reflections. Holos Gallery, 1792 Haight St., San Francisco. Info: (415) 668-HOLO.

Sept. 12  
2:30 PM YLEM PROJECTS PLANNING MEETING. Potluck wine and cheese at the home of Helen King, 670 Covington Rd., Los Altos. (Near Springer and Foothill Expressway. From 280, take Magdalena Exit.) Info, directions: (415) 836-9593, ask for Trudy.

Sept. 13  
7:30 PM ART AND COMPUTERS IN EDUCATION (A.C.E.) will meet at the home of Lillian Quirke, 20251 Reinell, Cupertino. Info: (408) 446-4310

Sept. 25  
2-5:30 PM DIMENSION DEMENTIA - YLEM MEETING, California College of Arts and Crafts Auditorium, Broadway at College in Oakland. Park on nearby side streets, go up wooded hill to the West.

Sept. 29-Nov 17 ART AND COMPUTERS COURSE - Lawrence Hall of Science. Each person will have his own computer. Weds. 7:30PM One class for adults, one for kids 11-14. 8 classes, \$40. Info: Batya Friedman. (415) 642-3167.

Oct. 30-31 THE ARTIST, THE DESIGNER, AND COMPUTER GRAPHICS - conference sponsored by the L.A. chapter of SIGGRAPH at Art Center College of Design. \$35 (memb. \$25). Info: Pavlovic, 5672 York Blv. LA 90042.

## OPPORTUNITIES

Deadline  
NOW THE VOICE IN THE MACHINE - computer graphics show. Send slides, SASE. Show dates, Nov. 5-24. Mercer Co. Community Coll., PO Box 8, Trenton, NJ 08690. Info: Martha Cahn, (609) 586-4800 x 588.

Sept. 17  
deadline SCIENCE TEACHERS for after school classes at Palo Alto Jr. Museum, 1451 Middlefield Rd., P.A.. Physics fun for 9-11 year-olds, kindergarten science. Info: (415) 329-2111.

Sept 30  
deadline JOB AS SILKSCREEN SHOP MANAGER - Kalnos Cottage, a home and training center for retarded adults. 3631 Jefferson, Redwood City, 94062. Info: (415) 363-2423.

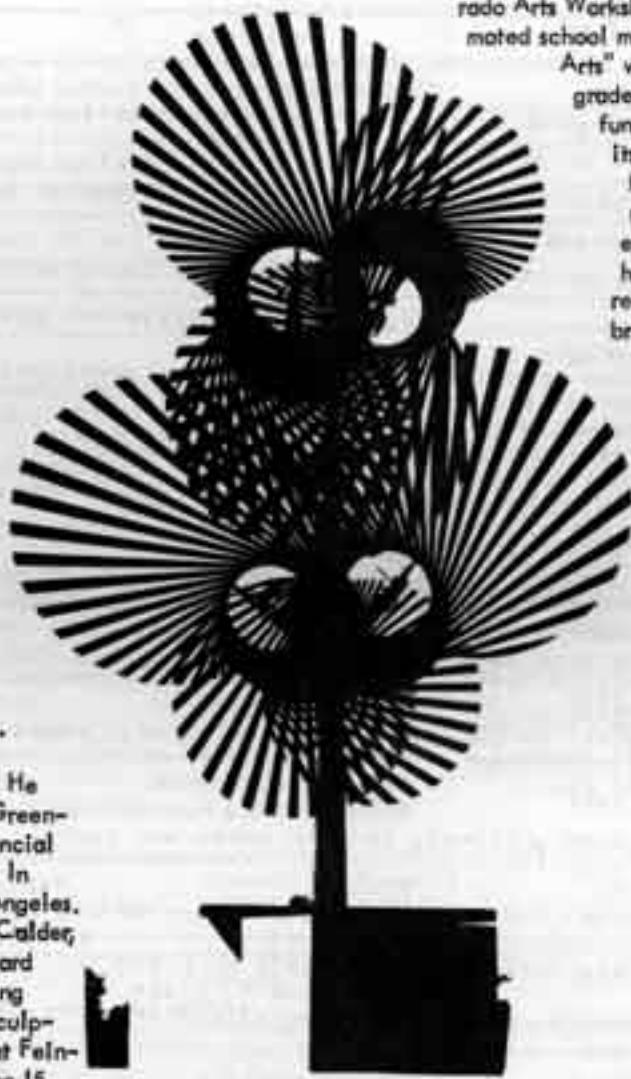
Oct. 1  
deadline \$4,200 for a work of art for the state office data center at Juneau. Site is 7X25 ft. sheetrock wall. Send 10 slides of work, resume, proposal mounted on 14 X 18" cardboard to "1 % - Juneau Data Center", Alaska State Council on the Arts, 619 Warehouse Av #220, Anchorage, Ak 99501.

Also, THE ART OF COMPUTER GRAPHICS, a book-in-progress, seeks computer graphic works from all sizes of systems. Write Peter Dean at Cucumber Studios, 21 Heddon St., London W1, U.K. .... Crystal Haze, 214 Valencia, S.F., fabricates glass and neon with CAD. Recently it hosted an illuminated sculpture show, and may be interested in more of the same. .... LEONARDO MAGAZINE's editor has moved to San Francisco. It may become easier to submit manuscripts to this prestigious journal. Find a copy at your college library. It is a small-circulation scholarly magazine with high subscription fee. Contact it through Bryan Rodgers, Art Dept., SFSU, 1600 Holloway, San Francisco.

MEMBERS IN THE NEWS: Elaine Hindin will be a CAC "Artist-in-Community" at Louden-Nelson Center in Santa Cruz, where she will do a multi-media installation piece called "Flea Market", and teach a Wed. night class in multi-media happenings. She's looking for laser and computer resources for this. .... Lucia Grossberger and Harry Vertelney showed their "Designer's Toolkit" software for the Apple II and Lucia's graphics done with it at the US Festival on Labor Day.

## about the artists

RUTH ASAWA uses the approach of Josef Albers, which is to probe and prod a material until a novel application reveals itself. Ruth has teased wire, an essentially one-dimensional material into three dimensions. Although the technique is similar to knitting, the stiffness of the wire permits airy structures and interpenetrating planes. (See back page). While it is true for all creators that THE IDEA is only the beginning, it is triply true of sculptors: "There isn't much to say about working, only that it is monotonous and endless. I usually think about what to cook and daydream about the day's events." Many of her wire sculptures were done while raising a large family. In San Francisco the art-and-money-starved schools have been blessed with her interest. Years ago she and other parents started the Alvarado Arts Workshop. Among other things, it has promoted school mural projects, the "School for the Arts" within McAteer High School (150 9th graders start this Fall), and is now raising funds to involve practicing artists with its students. Her Hyatt Union Square fountain was a collaboration with many folks, some of them kids. Her interest in people also led to her making a huge number of face casts, then to a recent series of portrait heads of celebrities, a commission for Macy's. She molded the three-foot diameter heads out of clay, coated this with cellophane (a tough, lightweight plastic material), and removed the clay. This commission is finished, but she is now using the technique to do a big head of Buckminster Fuller. Fuller and Albers were teachers of hers at Black Mountain college in the Forties.



© Jerome Kirk

**JEROME KIRK** first learned metalworking as an apprentice toolmaker for Ford Motor Company. He fought in Europe in World War II, then studied engineering and humanities at MIT. In 1949 he saw Alexander Calder's mobiles for the first time. "From then on, I was hooked," Jerome says. In 1951 he began to make his own moving sculpture. That year he also went to work in industrial relations in the auto industry. He quit three years later, and moved to Greenwich Village to sculpt full-time. Financial pressures drove him back to industry. In 1963 he and his family moved to Los Angeles.

By this time he had met Noguchi, Calder, David Smith, and Bertola, and had heard Naum Gabo lecture. In spite of working full-time, he continued doing metal sculpture, and had his first one-man show at Feinberg Galleries in 1963. He has done 15 major commissions in public places, including one at Bechtel Engineering Center at U.C. Berkeley. "It was many years before I shook off Calder's influence," he says. He now exploits a huge variety of kinetic effects. The moire effect shown here is but one. His trademark is shapes exquisitely balanced like beam-balances, often painted red. If time is considered a dimension, his work is four dimensional.

**BOB ISHI** has been involved with the visual aspects of science for a long time. He studied paleontology at Stanford, with forays into marine biology, and design. This was followed by two years in the Peace Corps in India, first advising village craftsmen making products for export, then setting up a geology field work curriculum for university students. For 14 years he has been designing books for W.H. Freeman. One of the rewards of his job is seeing state-of-the-art science graphics and photographs. He designed the new Mandelbrot fractal book. At home, he experiments with moire and "game of life" patterns on his Apple II, exploiting rather than cursing the low resolution. The cover design was produced with a geologic contour mapping program, but instead of data points from mountains, he used ones from a plaster face.

## SHORT STORIES

All Mimsy Were the Borogoves Lewis Padgett  
 Short story reprinted in the Science Fiction Hall of Fame, Vol. 1,  
 assembled by the Science Fiction Writers of America. The magic and mystery  
 of 4-d as dramatized through 4-d children's toys.

And He Built a Crooked House Robert Heinlein  
 Short story reprinted in  
 About a house in the shape of an unfolded tesseract. The collapses.

## BOOKS

Flatland Edwin Abbott 1952 Dover (1884)  
 A classic fable that uses 2 dimensions as a metaphor for narrow-mindedness.

Sphereland Dionys Burger 1965 Thomas Crowell  
 A sequel to Flatland that explores more advanced ideas of curved space.

2-Dimensional Science and Technology Dewdney  
 Ideas on how things would have to work in a real two-dimensional world.

Geometry, Relativity and the Fourth Dimension Rudolf v. B. Rucker 1977 Dover  
 Takes Sphereland into spacetime physics. With an annotated bibliography.

Geometry of Four Dimensions Henry P. Manning 1956 Dover (1914)  
 A thorough visually-oriented mathematical treatment of 4-d shapes.

Hypergraphics: visualizing complex relationships in art, science and technology David Brisson, ed. 1978 Westview Press  
 Essays from the American Association for the Advancement of Science symposium.

Geometry and the Imagination Hilbert and Cohn-Vossen 1952 Chelsea  
 Shapes and surfaces with outstanding visuals. Includes chapter on 4-d solids.

The Ambidextrous Universe Martin Gardner 1979 Scribner  
 Well-researched essays on parity. Chapter on turning right into left via 4-d.

Speculations on the Fourth Dimension Charles H. Hinton 1960 Dover (1900)  
 Rudolf v. B. Rucker, ed.  
 Excerpts from his many writings. Colored cubes and spatial speculations.

Mr. God This is Anna Fynn 1974 Ballantine  
 Biographical. Includes 4-d as explained by a 6-year-old to a 19-year-old.

Four-dimensional Descriptive Geometry C. Ernesto S. Lindgren and Steve M. Slaby 1968 McGraw-Hill  
 How to draw 4-d figures. A detailed generalization of drafting concepts.

Four-dimensional Space Ludwig Eckhart 1968 Indiana U Press  
 Arthur Bigelow and Steve Slaby, Translators  
 Translation of the short but systematic German book.

A Primer of Higher Space Charles Bradon 1972 Omen Press (1913)  
 A lovely hand-drawn poetic analysis of 4-space as a metaphysical metaphor.

The Fourth Dimension Henry P. Manning, ed. 1960 Dover (1910)  
 Simply Explained  
 Essays from a competition organized by Scientific American. Many metaphors.

Four Dimensional Geometry: Introduction 1977 National Council of Teachers of Mathematics  
 Paperback, \$2.15. 1906 Association Dr., Reston VA 22091. 703-620-9840

Four Dimensional Tic-Tac-Toe Don Burleson 1971 Educator Books  
 \$4.95. Drawer 32, 10 N. Main, San Angelo TX 76901. 915-653-0152.

Four Dimensional Tooth Color Mula 1961 Quintessence Pub.  
 System  
 8 S. Michigan Ave., Suite 2301, Chicago IL 60603. 312-782-3221. (Don't ask me.)

POLYHEDRAL RESOURCES, CONT.

Regular Polytopes H. S. M. Coxeter 19.. Dover  
 Symmetry, kaleidoscopes, shapes. Partly anecdotal, mostly mathematical.

Regular Complex Polytopes H. S. M. Coxeter 19.. Cambridge U  
 A richly complex sequel. Many finely printed mandalas.

Foundations of Geometry C. R. Wylie, Jr. 1964 McGraw-Hill  
 A textbook written primarily for secondary school geometry teachers.  
 Includes a chapter that extends the basic Euclidean postulates to 4 dimensions.

Escaping 3-dimensional Thinking  
 An unfinished book project. A collection of essays and excerpts. Informal.

Solid Geometry L. Lines 1965 Dover  
 Chapters on polyhedra (with proofs of how many semi-regular polyhedra there are), space lattices, sphere-packs, and crystals.

Surfaces H.B. Griffiths 1976 Cambridge  
 A topological look at surfaces from an elementary point of view.

Patterns in Nature Peter S. Stevens 1974 Little, Brown  
 Attractive "synthesis of art and science".

Experiments in Form Peter & Susan Pearce 1980 Van Nostrand Reinhold Co.  
 A Foundation Course in Three-Dimensional Design

Space Structures Arthur L. Loeb 1976 Addison-Wesley  
 Their Harmony and Counterpoint  
 Structure of geometric models. Worked with Buckminster Fuller.

Synergetics: Synergetics II R. Buckminster Fuller 1975 Macmillan  
 Lots of ideas, sometimes hard to get at. A classic. The first is now in paperback.

On Growth and Form d'Arcy Wentworth Thompson 1942 Cambridge  
 A classic. Patterns in nature.

Order in Space Keith Critchlow 1965 Viking Press  
 A design source book.

Fractals Benoit B. Mandelbrot 1977 Freeman  
 Form, Chance, and Dimension  
 JUST OUT! Mandelbrot's latest  
 The first work in a new field. Lovely pictures. fractal book - W. H. Freeman 1982

Geometric Exercises in Paper F. Sundara Row 1966 Dover  
 Folding

Curiosities of the Cube Ernest R. Ranucci 1977 Crowell  
 Everything you wanted to know Wilma E. Rollins  
 about cubes.

Cubes David S. Fielker 1969 Cambridge  
 Pamphlet. Preceding book has more.

Mathematical Models Cundy and Rollett 1961 Oxford  
 Classic model building book.

Polyhedron Models Magnus J. Henninger 1971 Cambridge  
 For building cardboard models of most of the regular, semi-regular, and star solids.

Mathematical Recreations E H. H. Rouse Ball 1974 U. of Toronto  
 Essays G. H. S. M. Coxeter (twelfth edition)  
 The classic book in recreational mathematics (1st ed. 1892). Good chapter on polyhedra.

Mathematical Curiosities I & II Tarquin Books, Stradbroke, Diss.  
 2 books of models to cut and put together. Norfolk, England  
 Models include hexaflexagons, Klein Cube, Möbius Strips, Hypercube, & more.

Make Shapes Mathematical Models Tarquin Books  
 3 books of polyhedral models, 19 simple ones in the first, 3 intricate ones in the third.

Pholdit S. Goldberg 1977 Billiken  
 Cutout and fold models of basic figures: Pyramid, cube, diamond, crystal, 24-pointed star, and a few others.

Send to Ylem, 967 Moreno, Palo Alto, CA 94303

I would like:

to receive a sample issue.  
 a year's membership. \$10 is enclosed.  
 newsletter only, since I live more than 100 miles  
from both San Francisco and Palo Alto. \$5 is enclosed.

My needs, interests, specialties:

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zip \_\_\_\_\_  
Phone ( ) \_\_\_\_\_

Suggestions, other interested artists:

© Ruth Asawa



YLEM  
artists using science  
and technology

967 moreno, palo alto ca 94303

address correction requested

first class - return postage guaranteed

YLEM IS the Primordial Stuff out of which the universe emerged. The emerging art-and-science group, Ylem, meets bi-monthly, alternating between Palo Alto and Oakland. (It's pronounced eye'-lum).

HOW TO KEEP Ylem rolling along was the subject of the August 15th meeting at Jerome Kirk's studio. The discussion was almost as lively as Jerome's sculptures, which no one could resist setting in motion. The most practical observation was that we are a spread-out group, frustrating those of us who want to get acquainted with each other's ideas, works, and lives. Three people offered to call people in their areas and arrange for some get-togethers there: Ken Herrick (Oakland), Louis Brill (San Francisco), and Judy Spencer (South Bay), North Bay and Peninsula, anyone? Meeting when we have an upcoming show could result in some fascinating collaborations. Louis described such works by Experiments In Art and Technology (EAT) in N.Y. and L.A. in the 60's and 70's, and we pondered how we could profit from its experience. Sites for shows were suggested. While Merry Renk, exhibit scout, is in Comiso for eight months Eleanor Kent will look for a gallery, but could use some help. Trudy Myrrh Reagan, who has edited the newsletters and arranged the programs, will be away January to April as well. Anyone who can help with either of these may call her at (415) 856-9593. Since this is such an intensely busy group of people, she suggested that we all be on the lookout for interested students and retired people who can help. Louis offered to lead a tour of the Imaginarium at Stanford. Still need is a tour arranger for our third Silicon Gulch graphics tour. The last one, which Eleanor led, cost \$5, and visited Cromemco and Via Video, where the artists were allowed to try the system. Ways to liaison with other groups were suggested: contacting the editor of Leonardo Magazine who is moving to San Francisco; exchanging newsletters with similar groups; developing an ongoing arrangement with a non-commercial gallery to do periodic performances and shows. Louis offered information he is gathering about obtaining non-profit status should we ever need to apply for a grant. Bob Ishii has access to some stunning fractal patterns if we want to raise several hundred dollars by selling Ylem T-shirts or other items.

On Sunday, September 12, 2:30 PM, peninsula members will have a chance to discuss future plans at 670 Covington Rd., Los Altos. Bring some wine, cheese, or nibbles!



Eleanor Kent  
544 Hill St  
San Francisco, CA 94114

Illusion, Antiquated Poetry  
Next Ylem meeting  
Dec. 4, Sat.

Meanda (Gallery for Ylem)